CLAIMS

1. A circuit for controlling a charging parameter provided to a rechargeable battery, said circuit comprising:

a power control circuit configured to provide a power control signal representative of a power output level of a DC source; and

a control signal generating circuit configured to reduce said charging parameter provided to said battery if said power output level exceeds a predetermined power threshold level.

2. The circuit of claim 1, further comprising a current control circuit configured to provide a current control signal representative of a current output level of a DC source, and wherein said control signal generating circuit is further configured to compare said current control signal with a current threshold signal representative of a current threshold level, and wherein said control signal generating circuit is further configured to reduce said charging parameter provided to said battery if said current output level exceeds said current threshold level.

3. The circuit of claim 1, wherein said power control circuit comprises:

a first path configured to provide a first signal representative of a current level output of said DC source;

a second path configured to provide a second signal representative of a voltage level output of said DC source; and

a power conversion circuit configured to accept said first and second signal and provide said power control signal in response to said first and second signal.

4. The circuit of claim 3, wherein said power conversion circuit comprises a multiplier coupled to said first path and second path, said multiplier configured to accept said first signal and said second signal and provide a third signal, said third signal based on a product of said first and second signal, wherein said power control signal is based on said third signal.

5. The circuit of claim 4, wherein said first signal comprises a current pulse width modulated signal having a pulse width representative of said current level output of said DC source and wherein said second signal comprises a DC voltage signal having a DC voltage level representative of said voltage level output of said DC source, and wherein said multiplier provides said third signal, said third signal a power pulse width modulated signal having a pulse width representative of said current level output and an amplitude representative of said voltage level output.

6. The circuit of claim 4, wherein said first path comprises:

a sense amplifier configured to provide a voltage signal representative of said current level output of said DC source; and

a comparator configured to accept a sawtooth signal and said voltage signal representative of said current level output of said DC source, said comparator configured to provide said current pulse width modulated signal, said current pulse width modulated

signal having a pulse width based on an intersection of said sawtooth signal with said voltage signal.

7. The circuit of claim 6, wherein said comparator provides said current pulse width signal having a first pulse width in response to said voltage signal representative of said current level at a first level, and wherein said comparator provides said current pulse width modulated signal having a second pulse width in response to said voltage signal representative of said current level at a second level, wherein said first pulse width is greater than said second pulse width if said first level is greater than said second level.

8. The circuit of claim 5, wherein said power conversion circuit comprises a filter configured to accept said third signal and provide said power signal.

9. The circuit of claim 8, wherein said filter comprises an RC circuit.

10. An electronic device comprising a circuit to control a charging parameter provided to a rechargeable battery, said circuit comprising:

a power control circuit configured to provide a power control signal representative of a power output level of a DC source; and

a control signal generating circuit configured to reduce said charging parameter provided to said battery if said power output level exceeds a predetermined power threshold level.

11. The electronic device of claim 10, said circuit further comprising a current control circuit configured to provide a current control signal representative of a current output level of said DC source, and wherein said control signal generating circuit is further configured to compare said current control signal with a current threshold signal representative of a current threshold level, and wherein said control signal generating circuit is further configured to reduce said charging parameter provided to said battery if said current output level exceeds said current threshold level.

12. The electronic device of claim 10, wherein said power control circuit comprises:

a first path configured to provide a first signal representative of a current level output of said DC source;

a second path configured to provide a second signal representative of a voltage level output of said DC source; and

a power conversion circuit configured to accept said first and second signal and provide said power control signal in response to said first and second signal.

13. The electronic device of claim 12, wherein said power conversion circuit comprises a multiplier coupled to said first path and second path, said multiplier configured to accept said first signal and said second signal and provide a third signal, said third signal based on a product of said first and second signal, wherein said power control signal is based on said third signal.

14. The electronic device of claim 13, wherein said first signal comprises a current pulse width modulated signal having a pulse width representative of said current level output of said DC source and wherein said second signal comprises a DC voltage signal having a DC voltage level representative of said voltage level output of said DC source, and wherein said multiplier provides said third signal, said third signal a power pulse width modulated signal having a pulse width representative of said current level output and an amplitude representative of said voltage level output.

15. The electronic device of claim 13, wherein said first path comprises:

a sense amplifier configured to provide a voltage signal representative of said current level output of said DC source; and

a comparator configured to accept a sawtooth signal and said voltage signal representative of said current level output of said DC source, said comparator configured to provide said current pulse width modulated signal, said current pulse width modulated signal having a pulse width based on an intersection of said sawtooth signal with said voltage signal.

16. The electronic device of claim 15, wherein said comparator provides said current pulse width signal having a first pulse width in response to said voltage signal representative of said current level at a first level, and wherein said comparator provides said current pulse width modulated signal having a second pulse width in response to said voltage signal representative of said current level at a second level, wherein said first

pulse width is greater than said second pulse width if said first level is greater than said second level.

17. The electronic device of claim 4, wherein said power conversion circuit comprises a filter configured to accept said third signal and provide said power signal.

18. The circuit of claim 17, wherein said filter comprises an RC circuit.

19. A method comprising:

monitoring an output power level of a DC source;

comparing said output power level to a threshold power level; and

reducing a charging parameter provided to a rechargeable battery if said output power level exceeds said threshold power level.

20. The method of claim 19, wherein said monitoring step comprises:

monitoring a current output level of said DC source;

monitoring a voltage output level of said DC source; and

multiplying said current output level by said voltage output level to obtain said output power level of said DC source.

21. The method of claim 19, wherein said monitoring step comprises:

monitoring a current output level of said DC source;

providing a pulse width modulated signal having a pulse width representative of said current output level;

monitoring a voltage output level of said DC source;

providing a DC voltage signal having an amplitude representative of said voltage output level;

multiplying said pulse width modulated signal and said DC voltage signal to obtain a third pulse width modulated signal having a pulse width representative of said current output level and having an amplitude representative of said voltage output level; and

filtering said third signal to obtain a fourth signal representative of said output power level of said DC source.

22. A circuit comprising:

a presence circuit configured to compare a voltage level of a DC source having a fixed output voltage level with a selectable voltage threshold level and to provide a presence signal representative of a presence of said DC source if said voltage level exceeds said selectable threshold voltage level; and

a control signal generating circuit configured to receive at least said presence signal and further configured to provide a control signal in response to at least said presence signal.

23. The circuit of claim 22, wherein said presence circuit comprises a resistor network, said resistor network configured to receive a reference voltage level and provide said selectable voltage threshold level.

24. The circuit of claim 23, wherein said resistor network comprises at least one trimmable resistive element.

25. The circuit of claim 22, wherein said presence circuit comprises a programmable memory element programmable to provide a desired threshold voltage level.

26. The circuit of claim 25, wherein said programmable memory element comprises a one time programmable memory element.

27. The circuit of claim 22, wherein said selectable threshold voltage level is provided in response to a host signal from an associated host power management unit (PMU).

28. The circuit of claim 22, wherein said control signal provided by said control signal generating circuit is a pulse width modulated signal provided to an associated DC to DC converter.

29. The circuit of claim 22, wherein said control signal provided by said control signal generating circuit is a selector circuit signal provided to control a state of at least one switch.

30. An electronic device comprising a circuit, said circuit comprising:

a presence circuit configured to compare a voltage level of a DC source having a fixed output voltage level with a selectable voltage threshold level and to provide a presence signal representative of a presence of said DC source if said voltage level exceeds said selectable threshold voltage level; and

a control signal generating circuit configured to receive at least said presence signal and further configured to provide a control signal in response to at least said presence signal.

31. The electronic device of claim 30, wherein said presence circuit comprises a resistor network, said resistor network configured to receive a reference voltage level and provide said selectable voltage threshold level.

32. The electronic device of claim 31, wherein said resistor network comprises at least one trimmable resistive element.

33. The electronic device of claim 30, wherein said presence circuit comprises a programmable memory element programmable to provide a desired threshold voltage level.

34. The electronic device of claim 33, wherein said programmable memory element comprises a one time programmable memory element.

35. The electronic device of claim 30, further comprising a host power management unit (PMU), and wherein said selectable threshold voltage level is provided in response to a host signal from said PMU.

36. The electronic device of claim 30, wherein said control signal provided by said control signal generating circuit is a pulse width modulated signal provided to an associated DC to DC converter.

37. The electronic device of claim 30, wherein said control signal provided by said control signal generating circuit is a selector circuit signal provided to control a state of at least one switch.

38. A method comprising:

selecting a threshold voltage level;

comparing an output voltage level of a fixed DC source with said threshold voltage level; and

providing a presence signal representative of a presence of said fixed DC source if said output voltage level exceeds said threshold voltage level.

39. The method of claim 38, wherein said selecting said threshold voltage level comprises selecting a first threshold voltage level if a first fixed DC source is utilized and selecting a second threshold voltage level if a second fixed DC source is utilized.

40. The method of claim 38, wherein said selecting said threshold voltage level comprises trimming a resistive element to a desired value.

41. The method of claim 38, wherein said selecting said threshold voltage level comprises programming a memory element.

42. The method of claim 41, wherein said programmable memory element comprises a one time programmable memory element.